TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, January 6, 1908.

The President, JOHN B. ROBERTS, M.D., in the Chair.

GUNSHOT WOUND OF STOMACH, WITH POSTERIOR DRAINAGE.

DR. EDWARD B. HODGE, JR., presented a man, aged 19 years, who was admitted to the Presbyterian Hospital on November 12, 1907, in the service of Dr. J. H. Jopson. Two hours before he had been accidentally shot with a BB bullet from an air rifle from a distance of 100 feet. The bullet penetrated a wire screen-door, shirt and undershirt, making a small wound 2 inches below the ensiform slightly to left of median line. Patient had taken no food for 5 or 6 hours, had not vomited and was in good condition. Temperature, 98.8°; pulse, 84; respiration, 26.

Immediate operation by Dr. Hodge. Incision through wound showed penetration through left rectus ranging toward left. A perforation in anterior wall of stomach near lesser curvature and nearer cardiac than pyloric end was closed with silk purse-string suture, reinforced by interrupted silk Lemberts. Little soiling of peritoneum. Air and blood were noticed behind gastro-colic omentum. This structure was torn through, and a perforation found on the posterior wall of the stomach toward the cardiac end. This was closed in a similar manner. No other injury could be found, but in view of the wound of the posterior stomach wall and a possible pancreatic lesion, posterior drainage was considered wise. Through a small incision in the left ileo-costal space a long forceps was pushed into the lesser peritoneal cavity and a medium-sized rubber tube withdrawn. The gastro-colic omentum was closed over this after dry sponging of the peritoneum. A small cigarette drain was inserted to the anterior stomach wound and both incisions closed with interrupted silk-worm gut.

For 24–36 hours the patient gave considerable anxiety on

account of marked restlessness, rapid pulse, 130–160, and respiration, 30–40, with some distension of the upper abdomen. After the second day convalescence was smooth. On day after operation there were 3 dark tarry stools, and for 10 days 1–3 of similar though lighter color. Tube was gradually shortened on account of moderate purulent discharge. Stitches removed on tenth day and patient discharged in 4 weeks.

DR. GEORGE G. ROSS said that, several years ago, at the Germantown Hospital he saw an Italian who had been shot. The ball went in the lower chest wall between the lower ribs, ranged downward and inward. The skiagraph showed the bullet resting against the vertebral column. The man was shot when his stomach was absolutely empty. There was reason to believe from his bowel movements that the bullet had gone through both walls of his stomach. He absolutely refused operation. He developed quite a cough and violent peritonitis, but finally got well without operation or drainage. Dr. Ross believes that there was a reasonable doubt as to perforation of the stomach, although it was thought there was from the clinical facts.

STAB WOUND OF THE DIAPHRAGM.

DR. FRANCIS T. STEWART reported the case of a man, aged 22 years, colored, who was admitted to the Pennsylvania Hospital December 14, 1907, in the service of Dr. Gibbon. The patient had been stabbed in the left mammillary line with a penknife, which entered the sixth interspace, cut through the seventh costal cartillage obliquely downward and outward and severed the muscles of the seventh interspace, the resulting wound being 3 inches in length. Through this wound protruded a portion of the stomach about the size of an orange. The pulse was 100, the temperature normal, and the respiration quiet. There was considerable pain in the region of the wound, rigidity of the left side of the abdomen, but no vomiting, displacement of the heart, or pneumothorax. Under ether anesthesia an incision was made through the left rectus abdominis. That portion of the stomach which protruded through the external wound was then pushed into the thorax, and the opening plugged with gauze in order to prevent the entrance of air. The stomach was then drawn upon from the abdominal cavity, but owing to the negative pressure in the thorax, reduction was found to be rather difficult until assisted by pressure from above through the thorax. The stomach was un-

injured and there were no other visceral lesions. The hole in the diaphragm was about 2½ inches long and ran in the direction of the muscular fibers, from the pericardium downward and outward. After pushing the diaphragm upward with the hand in the abdomen the wound in the diaphragm, the edges of which were about ¼ of an inch in thickness, was sutured, through the seventh intercostal space, with catgut without resecting a rib. The severed costal cartilage and the intercostal muscles were sutured with catgut, the skin with silkworm gut, no drainage was employed, and the diaphragmatic region was immobilized with adhesive straps. During the operation some air entered the thorax, but later there was no displacement of the heart and only a slightly higher pitch in the percussion note over the thorax. The lung was neither seen nor felt during the operation. The following day there was some pain and slight dyspnœa, both of which subsided in the course of 48 hours. The wounds healed by primary intention, and the patient left the hospital on the sixteenth day.

DR. JOHN N. GIBBON recalled a case of his own at the Pennsylvania Hospital several years ago, that of an Italian who was stabbed in the back and when he was seen by Dr. Gibbon shortly after the injury there was protruding through a wound at the lower angle of the scapula quite a mass of omentum, as large as three or four fingers. In this case Dr. Gibbon resected a rib, ligated and removed a portion of the omentum, returned the stomach to the abdominal cavity and closed the diaphragmatic opening. The knife the patient was stabbed with was a small one which passed between the ribs, and one rib acting as a fulcrum the knife cut a 2½ inch opening in the diaphragm. Dr. Gibbon opened the abdomen because he was afraid there might be an injury of the stomach but nothing was found and the abdominal wound was therefore closed. The patient did well for 24 hours but then developed a double pneumonia, and the man died 6 or 7 days after the receipt of his injury. An autopsy was performed and the pneumonia on the side where the patient had been injured was found to have practically subsided. His wound had completely healed and the active process was all on the opposite side.

DR. HARRY C. DEAVER said that in subdiaphragmatic abscesses complicating appendicitis he had resorted to drainage by resecting the tenth rib posteriorly and making the incision in

the diaphragm, stitching it to the muscles of the chest wall. He has found this very successful and also that it gives good drainage. Subdiaphragmatic abscesses are very hard to drain. In the last case upon which he operated, relieving the abscess in the way described, he depressed the liver and ran a large drainage tube between it and the diaphragm. This drained very nicely and there was no unpleasant results from stitching the diaphragm to the muscles of the chest wall.

Dr. John B. Roberts said that a good many years ago when he did his first nephrotomy he punctured the diaphragm by accident. He could hear the whistling of the air in the chest. The patient, however, recovered satisfactorily.

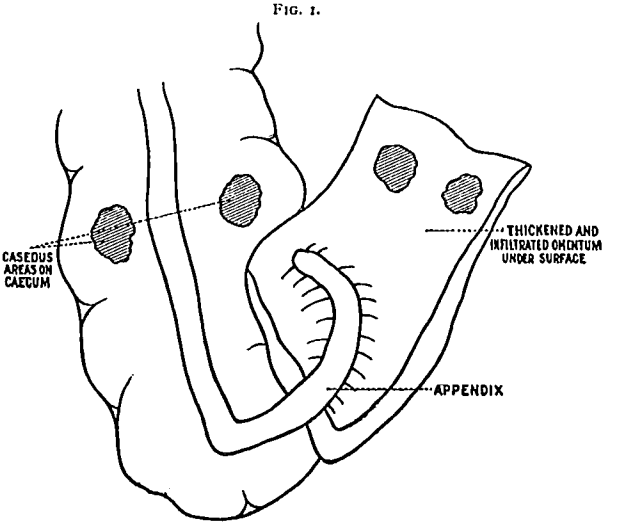
PRIMARY TUBERCULOSIS OF THE CÆCUM.

Dr. John H. Jopson reported the case of a man, aged 26 years, who was admitted to the Presbyterian Hospital, October 14, 1907. His family history was negative. Six weeks before admission he had been knocked down by a horse, and a wagon ran over him, the wheel passing over the left thigh just below the hip, and across the right iliac fossa. He had considerable pain in the abdomen and in the left hip, which lasted about three days, when he returned to light work. Pain continued, but of mild degree, until a week later, when he attempted heavier work, and from that time he suffered more severely, until 2½ weeks before admission, when he had to quit his work. He then detected a mass in the abdomen, which he thinks has increased in size, and since then has become the seat of increasing pain. Three weeks before admission he says he passed blood by the bowel for three days. Since then there have been daily bowel movements, sometimes loose, sometimes constipated. He has only vomited once. His appetite has been poor, and his only nourishment of late has been milk. Previous to his injury he had been in good health.

On admission his temperature was 100°, pulse 120, respiration 28. He was in good condition, well nourished, although of rather spare physique; nothing of note in the chest. There was a mass in the right iliac region about the size of a small orange, moderately sensitive, and the seat of pain. Leucocyte count, 18,100. His temperature fell below normal the day after admission, and continued below normal, between 97° and 98°. The pain and tenderness lessened, and the mass decreased apparently in size. On the 21st, one week after admission, the leucocyte

count was 14,000, and three days later 9,700. Operation October 25, 1907. Incision over the tumor showed it to be intra-peritoneal. The mass was formed of a portion of the end of the large omentum, overlying and adherent to the anterior wall of the cæcum, and the entire mass was fastened to the peritoneum over the inner wall of the false pelvis. The cæcum and adherent omentum were peeled off, which disclosed a few caseous areas on the underlying peritoneum. The omentum was stripped from the cæcum to the anterior surface of which it was adherent. Examination

FIG. 1.



Primary tuberculosis of cæcum. In this sketch the diseased portion of omentum has been separated and turned over, showing the relationship of the appendix.

of the under section of the portion of omentum so liberated showed the appendix adherent to it, small, short, and stripped of its peritoneal coat. Two caseous areas, about ⅓ inch in diameter, marked points on the cæcum adhesion (Fig. 1). The rest of the peritoneal coat of the cæcum was inflamed and thickened. There was no gross enlargement of the cæcum, however, and the neighboring intestines were normal in appearance. The adherent omentum was much thickened and altered in appearance, for a distance of 2½ inches by 1½ inches, and was ¾ of an inch in thickness. It was ligated from the rest of the omentum,

and removed with the appendix fastened to it after ligation of the base of the appendix. Iodoform gauze strips were packed over the raw surfaces, and the wound partially closed.

Convalescence was uninterrupted, and the wound was healed in about three weeks. The temperature remained normal, and no induration was present beneath the scar. Pain was entirely relieved. Careful physical examination before discharge was practically negative. There was a slightly duller note and some increase in tactile fremitus over the right apex, but no râles. He gained weight and strength, and was discharged in good condition.

Careful examination of the excised omentum showed on microscopic examination a caseating, tuberculous infiltration. This was confirmed by microscopic study. Serial sections of the appendix were made, which from its position in the mass was suspected to be the seat of the primary infection. These failed to show the presence of tuberculosis. The pathological diagnosis was, therefore, a primary tuberculosis of the cæcum, which would be included under the entero-peritoneal type of Hartmann and other writers, and secondary tuberculosis of the omentum. The omentum had well fulfilled its function of "abdominal policeman" in covering over the primary focus and assisting in the prevention of more extensive peritoneal infection.

Dr. JOPSON added that Henry Hartmann, in an address on the "Surgical Forms of Ileo-Cæcal Tuberculosis," before the Medical Society of London, December, 1906 (Brit. Med. Jour., 4-13-1907), gives a clear and concise review of the subject and an analysis of cases operated upon. Charles Greene Cumston has recently covered the subject very thoroughly in connection with a report of two cases (ANNALS OF SURGERY, Nov., 1907). Hartmann points out that the cæcum is the commonest seat of tuberculosis in the entire intestine, and that when the only portion of intestine involved it is usually a primary infection. Tuberculosis of the cæcum attacks by preference adults between 20 and 40 years of age. The cases admitting of surgical treatment are divided into the entero-peritoneal and hyperplastic types. In the first the cæcum, and with it frequently the ileum, is the seat of ulcers, and around it develop secondary peritoneal inflammation, adhesions, abscesses, and oftentimes fistulous tracts opening externally. The hyperplastic type, on the other hand, which is the most important surgically, is generally limited to the cæcum, beginning near the valve, and when it spreads, does so

toward the colon; it is marked by an increase in size of the cæcum with great thickening of its walls, and oftentimes the formation of a fibro-adipose enveloping mass. It is commonly non-adherent; its cavity is greatly decreased in size, frequently the site of stricture, and the mucous membrane is usually ulcerated. The appendix is often involved in the inflammatory exudate, but is usually patulous. As Hartmann points out, the infection may simulate one of two commoner conditions; viz., appendicitis and malignant tumor. The first-mentioned is commoner as a symptom-complex in the entero-peritoneal form; the second in the hyperplastic variety. Appendicial symptoms are preceded in the enteroperitoneal form by symptoms of enteritis, diarrhœa, bloody stools, etc., and later the mass, with localizing symptoms of pain, tumor, etc., appears in the right iliac region. Abscesses and fistulæ form, and pulmonary tuberculosis oftentimes develops later. It will be noted how closely the symptoms in the case here reported resemble those of the typical enteroperitoneal class. The diarrhœa, bloody stools, and later developing local symptoms were all present. The history of traumatism helped to mask their importance. How much the traumatism had to do with causation of the condition is a question.

Attacks resembling sub-acute appendicitis may develop in the course of hyperplastic cæcal tuberculosis, but the symptoms in general are those of slowly developing malignant tumors, with incomplete obstruction, alternating constipation and diarrhœa, colic and digestive disturbances. A tumor is usually present, and the course of the disease is toward a fatal issue in from 2½ to 3 years.

Resection is the operation of choice in the hyperplastic form. In the enteroperitoneal form, where the peri-cæcal infiltration is such a prominent and early lesion, resection is generally inadvisable. Simple laparotomy has resulted in a cure when the peritoneal lesions were few in number and intestinal ulceration absent. In severe cases, or when adhesions are very extensive, the operation of intestinal exclusion, unilateral, or, in the case of fistula, bilateral, performed on the cæcum, is indicated for the enteroperitoneal type.

Hartmann analyzes 229 operations for cæcal tuberculosis, with a death list of 46. Since 1900 the mortality has been but 12 per cent.

DIAGNOSIS OF RENAL DISEASE AND SUFFICIENCY.

DR. B. A. THOMAS read a paper with the above title, for which see page 588.

DR. JOHN H. GIBBON asked if Dr. Thomas could tell how many cases there have been of infection of the primarily healthy kidney from ureteral catheterization. It was his opinion that there was a certain amount of danger. For instance in the case of a patient with a tuberculous kidney with secondary involvement of the bladder there would be a certain amount of danger in carrying the infection into the well ureter unless the greatest care was exercised in cleansing the bladder thoroughly and in manipulating the catheter. Dr. Gibbon believes that the indiscriminate and careless use of ureteral catheters may result in injury of a perfectly healthy ureter and its corresponding kidney. He considers this a method of diagnosis which is of undoubted value, but it is only one means, and he thinks that if a diagnosis can be arrived at by means of a cystoscopic examination of the ureteral openings, as was done in two of the reported cases, it is better, especially in the presence of a bladder infection.

Dr. Gibbon referred to a case of a physician who had blood and pus in his urine, frequent micturition; he had no abdominal symptoms, no tumor or tenderness over the kidney, but he gave a history of having what he thought was an attack of appendicitis, which passed off. This attracted Dr. Gibbon's attention to the right kidney; he used a cystoscope on his patient with very little satisfaction, which he thought was due to the presence of blood. He then did a suprapubic cystotomy and found a large ulcerated area involving the right ureteral opening. The other ureteral opening was apparently normal. The bladder wound was healed in less than two weeks, and Dr. Gibbon then exposed the left kidney in order to determine its condition, as has been recommended by Leonard Freeman. This required only about ten minutes, and demonstrated a perfectly normal kidney. The right kidney, which was the seat of an extensive tuberculosis, was then removed. Within 48 hours after the removal of the kidney the patient could hold his urine for quite a little time, much longer than before the operation. He made a prompt recovery and before he left the hospital had to empty his bladder only once at night. At the present time the bladder function is perfectly normal, and the patient has resumed active practice.

Dr. Gibbon also referred to ureteral catheterization in cases

of ureteral calculi. He recalled two instances where the ureters had been catheterized by experienced men, and in which no ureteral stone could be definitely located. In one of these cases Dr. Gibbon removed a stone 18 months after catheterization, and in the other 6 months after catheterization. He believes that in these cases the X-rays are of far more value than ureteral exploration. Probably in the hands of an experienced man the use of the wax-tipped catheter might be relied upon in such cases.

Dr. B. A. Thomas replied that personally he had never seen a case of infection that could be ascribed to catheterization of the ureters. A couple of years ago he had an opporunity to visit Zuckerkandl in Vienna, where a great deal of work is being done along this line, and he took the opportunity to ask him whether he had ever seen a case, and much to Dr. Thomas' surprise Zuckerkandl replied in the negative. Dr. Thomas had expected that occasionally some such condition might arise. He thinks the danger can be reduced to such a minimum by thorough irrigation of the bladder with a sterile solution and thorough asepsis in instrumentation, that it is hardly worthy of consideration.

With reference to ureteral calculus Dr. Thomas said he thought that the catheterization of the ureters is probably not of so much value in the determination of this condition as the employment of various so-called chromo-cystoscopies, or the employment of the X-ray.

Notice.—Endo-Aneurismorrhaphy:

Dr. Matas, 2255 St. Charles Avenue, New Orleans, La., writes that he is compiling the statistics of operations for the radical cure of Aneurism by the method of intra-saccular suture (Endo-Aneurismorrhaphy) and will be obliged to all the surgeons who have had experience with this operation for brief reports of their cases.

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